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EXAMINER

CHEN, ALAN S

ART UNIT	PAPER NUMBER
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2182

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/789,454	Applicant(s) IVCHENKO ET AL.	
	Examiner Alan S. Chen	Art Unit 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 and 42-51 is/are pending in the application.
- 4a) Of the above claim(s) 1-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-39, 42 and 43 is/are rejected.
- 7) ☒ Claim(s) 44-51 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 06/21/2007 have been fully considered. Arguments made for claim 40 are not persuasive. However, arguments made for claims 44 and 45 are found to be persuasive. The prior art rejections for claims 44 and 45 are withdrawn.
2. Applicant first points out that Examiner did not formally reject claim 40. Applicant further argues (*page 16, second and third paragraphs*) that there is no indication the I/O connector, element 202 in prior art reference to Chandhoke, connects to other data acquisition nodes in the data acquisition and control system (*as previously claimed in claim 41*).
3. Examiner notes that the Office Action did not state the explicitly state the numeral of claim 40 to be rejected, however the claim limitations were indeed stated and rejected. Page 4, item 11 rejected claim 41 (*which is dependent on claim 40*), had the limitations of claim 40 expressly recited in the rejection. Per the connection to other data acquisition nodes argument, the claim language under contention appears to be in claim 41, specifically, "...upstream communications includes communications to a central controller and the downstream communications include communications to other data acquisition nodes in a data acquisition and control system.". The previous Office Action pointed out Fig. 2, element 82 as the data node communicating on the network with other computer/data nodes. Page 4, item 11 of the previous Office Action also mentioned bus interface, Fig. 6A, element 216 as one of the ports. In Chandhoke, Figs. 6A-6C are representative of the cards residing in the data node as shown in Fig. 5.

Paragraph 135 specifically state, "the device [interface card] may be internal or external to the computer 82, and may be connected to the computer through a network, such as the Internet.". Clearly, the interface card has the capability of communications out to computers/nodes being that is communicating on a network. There are several ports communicable off the card (*Fig. 6A*), i.e., I/O Connector (*element 202*), Local Bus (*element 208*), Control/Data Bus (*element 218*) and Bus Interface (*element 216*).

Relative to Fig. 5, Paragraph 143 discloses element 216 and 218 being the interface to the expansion bus, thus either one of those can be construed to be the downstream ports.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 35-39,42 and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by US Pat. Pub. No. 2002/0186245 to Chandhoke et al. (*Chandhoke*).

6. Per claim 35, Chandhoke discloses a data acquisition node (*Fig. 3A is the DAQ node*) comprising: a first circuit board supporting communications over a network (*Fig. 5, element 114, the DAQ card, also represented by the board in Fig. 6A; Paragraph 135 states DAQ board can be connected to network*); a second circuit board (*Fig. 5, element*

134 the image acquisition card; Fig. 6A also represents the card, see Paragraph 135), coupled to at least one of: i) an input device (Fig. 2, element 132 and Paragraph 110 disclose is a camera being connected to the image acquisition card), and ii) an output device (Fig. 5, element 134, the image acquisition card is able to output data to the bus, element 170; Fig. 6A shows various devices on the board that operate as processing circuitry to enabling the output of data to the bus, element 208); a connector interface (Paragraph 143 disclose the interface cards are PCI or PXI standard compliant, which means the interface to the bus are via connectors/slots on a PCI or PXI backplane) coupling multiple conductors of the first circuit board (PCI and PXI both have multiple conductors) to the second circuit board (Fig. 5 clearly shows all the peripheral devices are communicable over the PCI/PXI bus, element 170); and the first circuit board including a corresponding first programmable interface coupled to the multiple conductors (Fig. 6A, programmable logic, element 206, enables interfacing the PCI/PXI local bus, element 208); the second circuit board including a corresponding second programmable interface coupled to the multiple conductors (Fig. 6A and Paragraph 135 disclose the card in Fig. 6A applies to both the image and DAQ cards and thus both have programmable interface capability), configuration settings of the first programmable interface and the second programmable interface enabling conveyance of signals between the first circuit board and second circuit board (FPGA interfaces local bus logic, e.g., programmable for PCI/PXI bus communications; Fig. 5 shows all peripheral devices can communicate over the bus, element 170); wherein the first circuit board has upstream and downstream ports (Fig. 6A, I/O connector is bi-directional, so is

the bus interface, element 216), wherein the upstream communications goes to a central control (Fig. 6A, element 204) and downstream communication is to other data acquisition nodes (Fig. 2, shows the computer, element 82, is connected to a network of other computers).

7. Per claim 36, Chandhoke discloses claim 35, further disclosing input device is a sensor device that monitors characteristics of a specific region in proximity to the data acquisition device (*Fig. 4, camera senses items near the acquisition node that has defects*).

8. Per claim 37, Chandhoke discloses claim 36, further disclosing the second circuit board forwards data over to the first board for transmission over the network (*Paragraph 135 discloses transmission over a network with the DAQ card*).

9. Per claim 38, Chandhoke discloses claim 37, further disclosing the second circuit board including an isolation circuit between the sensor device and the corresponding second programmable interface (*any of the processing shown in Fig. 6A, element 204, which sits between the input device over I/O connector 202 and the FPGA, element 206, can be construed to isolate the FPGA and camera*).

10. Per claim 39, Chandhoke discloses claim 35, further disclosing the output device is activated based on commands received over the network (*Paragraph 254 discloses image acquisition card can be controlled over the network using a GUI program*).

11. Per claims 42, Chandhoke discloses claim 35, wherein Chandhoke further discloses the devices in Fig. 5 working in synchrony in order to perform the detections in

Fig. 4, e.g., detecting for defects; network control of the image acquisition card is performed over the network using a GUI (*Paragraph 254*).

12. Per claim 43, Chandhoke discloses claim 42, wherein the first circuit board receives communications over the network indicating how to program the first programmable interface and the second programmable interface (*Paragraph 254, portions of graphical program deployed into FPGA over network*).

Allowable Subject Matter

13. Claims 44-51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is the statement of reasons for the indication of allowable subject matter: The prior art disclosed by the applicant and cited by the Examiner fail to teach or suggest, alone or in combination, ***all*** the limitations of the independent claim(s) (*claim 35*), particularly the first circuit board, **based on communications over the network from a remotely located computer**, driving a signal to the second circuit boards via at least one of the multiple conductors to synchronize the controller with functionality of the second circuit board (*claim 44*); the second circuit board, **based on events detected by the input device**, drives a signal to the first circuit board via at least one of the multiple conductors to synchronize functionality of **the second circuit board with a remotely located controller over the network** (*claim 45*); the **data acquisition node is part of a daisy chain of multiple data acquisition nodes**, wherein the first communication port is connected to an upstream data acquisition node and the second

communication port is connected to a downstream data acquisition node in the daisy chain (*claims 46-51*).

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S. Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2182

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ASC
08/29/2007


8/29/07